**POORNIMA UNIVERSITY, JAIPUR**

**END SEMESTER EXAMINATION, APRIL 2023**

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|  | **2BT4109** | Roll No. | Total Printed Pages: 2 |
| **2BT4109** |  |
| B. Tech. II Year IV- Semester (Main/Back) End Semester Examination, April 2023  **(CV)** | |
| **BCVECV4112 : Construction Equipment’s** | | | |

# Time: **3** Hours. Total Marks: **60**

Min. Passing Marks: **21**

Attempt **five** questions selecting one question from each Unit. There is internal choice from Unit I to Unit V. Marks of each question or its parts are indicated against each question / parts. Draw neat sketches wherever necessary to illustrate the answer. Assume missing data suitably (if any) and clearly indicate the same in the answer.

Use of following supporting material is permitted during examination for this subject.

# **1.--------------------------Nil--------------------** **2.------------------Nil-----------------------**

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|  |  | **UNIT-I (CO1)** | **Marks** | **Bloom Level** |
| **Q.1** | **(a)** | How can we achieve construction economy by using these Equipment’s? Also discuss advantages and disadvantages of using Construction Equipment’s. | **(6)** | Remembering |
|  |  |  |  |  |
|  | **(b)** | Discuss effect of grade on required tractive effort. Also write about effect of altitude and temperature on the performance of internal combustion engines. | **(6)** | Understanding |
|  |  |  |  |  |
|  |  | **OR** |  |  |
|  |  |  |  |  |
| **Q.2** | **(a)** | Discuss factors affecting selection of Construction Equipment’s | **(6)** | Understanding |
|  |  |  |  |  |
|  | **(b)** | Write short notes on followings-  (a) Rolling Resistance (b) Drawbar Pull  (c) Rimpull (d) Effect of acceleration on Drawbar Pull and Rimpull. | **(6)** | Remembering |
|  |  |  |  |  |
|  |  | **UNIT-II (CO2)** |  |  |
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| **Q.3** | **(a)** | Define Earth Moving Equipment, what is the basic difference between Crawler and wheel tractors? | **(6)** | Understanding |
|  |  |  |  |  |
|  | **(b)** | Write about uses and types of scrapers used as construction equipment’s. | **(6)** | Remembering |
|  |  |  |  |  |
|  |  | **OR** |  |  |
|  |  |  |  |  |
| **Q.4** | **(a)** | Discuss specification of bull dozers and their uses in construction | **(6)** | Remembering |
|  |  |  |  |  |
|  | **(b)** | Discuss different types of trenching machine with their application. | **(6)** | Remembering |
|  |  |  |  |  |
|  |  | **UNIT-III (CO3)** |  |  |
|  |  |  |  |  |
| **Q.5** | **(a)** | What are the application of Hauling Equipment’s? Give name of different types of Hauling Equipment’s. | **(6)** | Evaluating |
|  |  |  |  |  |
|  | **(b)** | Define Compaction Equipment, what are the applications of Compaction Equipment in different types of construction works? | **(6)** | Applying |
|  |  |  |  |  |
|  |  | **OR** |  |  |
|  |  |  |  |  |
| **Q.6** | **(a)** | Discuss about effect of grade and rolling resistance on the cost/performance of hauling equipment. | **(6)** | Understanding |
|  |  |  |  |  |
|  | **(b)** | Write about application and specification of sheep's foot roller and vibrating rollers. | **(6)** | Evaluating |
|  |  |  |  |  |
|  |  | **UNIT-IV (CO4)** |  |  |
|  |  |  |  |  |
| **Q.7** | **(a)** | What do you understand by Drilling, Blasting and Tunneling Equipment? | **(6)** | Understanding |
|  |  |  |  |  |
|  | **(b)** | Explain Jackhammers with the help of neat line diagram. | **(6)** | Applying |
|  |  |  |  |  |
|  |  | **OR** |  |  |
|  |  |  |  |  |
| **Q.8** | **(a)** | What are the uses bits? Discuss about different types of bits used in drilling operation. | **(6)** | Understanding |
|  |  |  |  |  |
|  | **(b)** | Explain Drifters with the help of neat line diagram. | **(6)** | Applying |
|  |  |  |  |  |
|  |  | **UNIT V (CO5)** |  |  |
|  |  |  |  |  |
| **Q.9** | **(a)** | Write application of Pile Hammer, Give factors affecting for the selection of different types of Pile Hammer. | **(6)** | Applying |
|  |  |  |  |  |
|  | **(b)** | Write name of different types of Pumps used for Construction Sites, also discuss factor affecting selection of Water Pumps for Construction Site | **(6)** | Remembering |
|  |  |  |  |  |
|  |  | **OR** |  |  |
|  |  |  |  |  |
| **Q.10** | **(a)** | Write a note on Equipment for bored and cast in-situ piles. | **(6)** | Applying |
|  |  |  |  |  |
|  | **(b)** | Explain well point system for dewatering with the help of neat diagram. | **(6)** | Evaluating |